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[Page 48461-48463]  
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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2006-24101; Directorate Identifier 2005-NM-103-AD; Amendment 39-14718; AD 2006-16-18]**

**RIN 2120-AA64**

**Airworthiness Directives; Sandel Avionics Incorporated Model ST3400 Terrain Awareness Warning System/Radio Magnetic Indicator (TAWS/RMI) Units Approved Under Technical Standard Order(s) C113, C151a, or C151b; Installed on Various Small and Transport Category Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** The FAA is adopting a new airworthiness directive (AD). The new AD is for Sandel Avionics Incorporated Model ST3400 TAWS/RMI units as described above. This AD requires installing a warning placard on the TAWS/RMI and revising the Limitations section of the airplane flight manual (AFM). This AD also requires installing upgraded software in the TAWS/RMI. This AD results from a report that an in-flight bearing error occurred in a Model ST3400 TAWS/RMI configured to receive bearing information from a very high frequency omnidirectional range (VOR) receiver interface via a composite video signal, due to a combination of input signal fault and software error. We are issuing this AD to prevent a bearing error, which could lead to an airplane departing from its scheduled flight path, which could result in a reduction in separation from, and a possible collision with, other aircraft or terrain.

**DATES:** This AD becomes effective September 25, 2006.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of September 25, 2006.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC.

Contact Sandel Avionics Incorporated (Sandel), 2401 Dogwood Way, Vista, California 92081, for service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Ha A. Nguyen, Aerospace Engineer, Systems and Equipment Branch, ANM-130L, FAA, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712-4137; telephone (562) 627-5335; fax (562) 627-5210.

## **SUPPLEMENTARY INFORMATION:**

### **Examining the Docket**

You may examine the airworthiness directive (AD) docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to Sandel Avionics Incorporated Model ST3400 terrain awareness warning system/radio magnetic indicator (TAWS/RMI) units approved under Technical Standard Order(s) C113, C151a, or C151b; installed on various small and transport category airplanes. That NPRM was published in the Federal Register on March 8, 2006 (71 FR 11549). That NPRM proposed to require installing a warning placard on the TAWS/RMI, installing upgraded software in the TAWS/RMI, revising the Limitations section of the airplane flight manual (AFM), and removing the placard and AFM revision after installing the software.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

### **Support for the NPRM**

One commenter, Boeing, expresses support for the NPRM.

### **Request for Clarification of Effect on Very High Frequency Omnidirectional Range (VOR) Receiver**

One commenter, Cessna, requests that we clarify the unsafe condition. Cessna states that we are not specific regarding the effect of system decoding on the automatic direction finder (ADF) signal. Cessna asserts that greater focus is needed on VOR bearing error. Cessna has provided a suggested revision for the summary of the NPRM and requests that we include an explanation of the effect of the ADF on the unsafe condition.

We partially agree. The unsafe condition described in the AD affects only TAWS/RMI installations incorporating the RMI feature that are configured to receive bearing information from a VOR receiver interface via a composite video signal; there is no effect when the VOR receiver and the TAWS/RMI interface via ARINC 429. Further, this condition does not affect the TAWS/RMI bearing display when bearing information is being supplied from any ADF receiver. No technical change to the AD is needed in this regard; however, we have determined that the summary of the AD could more clearly specify the relationship of the required AFM revision to the required software upgrade. Therefore, we have clarified the summary of this AD to specify that the unsafe condition only occurs on TAWS/RMI units configured to interface with a VOR receiver via a composite video signal.

## **Request for Correction of Airplane Listings**

One commenter, Aviation Data Research, requests corrections to Table 1 of the NPRM. The commenter asserts that several of the airplane manufacturers and models are incorrectly specified and expresses concern that, although this information is clearly designated as advisory rather than regulatory, the inaccuracies might allow a legal defense against compliance with the AD.

We partially agree. The described TAWS/RMI is subject to the requirements of this AD. Table 1 of the AD refers to airplanes equipped with the TAWS/RMI and, rather than being advisory, is part of the applicability of the AD. As indicated by the phrase, "but not limited to," the TAWS/RMI is subject to this AD whether installed on any airplane by any manufacturer during production or by any entity subsequent to production. However, we agree that an AD should provide accurate information. Therefore, we have revised Table 1 of the AD to identify model designations as published in the most recent type certificate data sheet for the affected models.

## **Clarification of Summary**

The summary of the NPRM states, in part, that one proposed requirement of the AD is "removing the placard and AFM revision after installing the software." However, the AD does not require these actions. To prevent confusion, we have revised the summary of the AD by deleting the clause quoted above.

## **Conclusion**

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Costs of Compliance**

This AD will affect about 300 airplanes of U.S. registry. The required actions will take about 1 work hour per airplane, at an average labor rate of \$65 per work hour. Based on these figures, the estimated cost of the AD for U.S. operators is \$19,500, or \$65 per airplane.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

#### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

# AIRWORTHINESS DIRECTIVE

[www.faa.gov/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)  
[www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)

U.S. Department  
of Transportation  
**Federal Aviation  
Administration**



**2006-16-18 Sandel Avionics Incorporated:** Amendment 39-14718. Docket No. FAA-2006-24101; Directorate Identifier 2005-NM-103-AD.

## Effective Date

(a) This AD becomes effective September 25, 2006.

## Affected ADs

(b) None.

## Applicability

(c) This AD applies to Sandel Avionics Incorporated (Sandel) Model ST3400 terrain awareness warning system/radio magnetic indicator (TAWS/RMI) units approved under Technical Standard Order(s) C113, C151a, or C151b; as identified in Sandel ST3400 Service Bulletin SB3400-01, Revision B, dated September 15, 2004; as installed on various small and transport category airplanes, certificated in any category, including, but not limited to, the airplane models listed in Table 1 of this AD.

**Table 1.—Manufacturers/Airplane Models**

<b>Manufacturer</b>	<b>Airplane model(s)</b>
Airbus	A300
Avions Marcel Dassault - Breguet Aviation (AMD/BA)	Falcon 10
Boeing	727, 737, 747
Bombardier (LearJet)	24, 35, 36, 55
British Aerospace (Operations) Limited	Jetstream Series 3101
Cessna	208, 208B, 421C; 501, 525, 550, 560, 650, S550
Embraer	EMB-120
Dassault-Aviation	Mystere-Falcon 50, Mystere-Falcon 200
Gulfstream	G-I, G-1159A (G-III)
Israel Aircraft Industries (IAI)	1124, 1125 Westwind Astra
McDonnell Douglas	DC-10
Piper	PA-31T2

<b>Manufacturer</b>	<b>Airplane model(s)</b>
Raytheon	58; 1900D, 400; A36; BAe.125 Series 800A; HS.125 Series 600A/700A; Hawker 800-XP; 200, 300, 350, A200, B100, B200, B300, C90, C90A, C90B, E90, F90, MU-300-10
Sabreliner	60 (NA-265-60)
Twin Commander	500-A, 695A
Viking Air Limited	DHC-6

### **Unsafe Condition**

(d) This AD results from a report that an in-flight bearing error occurred in a Model ST3400 TAWS/RMI unit configured to receive bearing information from a very high frequency omnidirectional range (VOR) receiver interface via a composite video signal, due to a combination of input signal fault and software error. We are issuing this AD to prevent a bearing error, which could lead to an airplane departing from its scheduled flight path, which could result in a reduction in separation from, and a possible collision with, other aircraft or terrain.

### **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

### **Installing Placard**

(f) Within 14 days after the effective date of this AD: Install a placard on the TAWS/RMI which states, "NOT FOR PRIMARY VOR NAVIGATION," in accordance with Sandel ST3400 Service Bulletin SB3400-01, Revision B, dated September 15, 2004.

### **Revising Airplane Flight Manual (AFM)**

(g) Within 14 days after the effective date of this AD: Revise the Limitations section of the applicable AFM to include the following statement: "Use of ST3400 TAWS/RMI for primary VOR navigation is prohibited unless the indicator has 3.07 or A3.06 software or later." This may be done by inserting a copy of this AD into the AFM.

### **Updating Software**

(h) Within 90 days after the effective date of this AD, in accordance with Sandel ST3400 Service Bulletin SB3400-01, Revision B, dated September 15, 2004: Field-load the TAWS/RMI with updated software having revision 3.07 (for units having serial numbers (S/Ns) under 2000) or revision A3.06 (for units having S/Ns 2000 and subsequent). The placard and AFM limitations revision installed as required by paragraphs (f) and (g) of this AD may be removed after the software upgrade required by paragraph (h) of this AD has been accomplished.

### **Parts Installation**

(i) As of 90 days after the effective date of this AD, no person may install, on any airplane, an ST3400 TAWS/RMI unit, unless it has been modified in accordance with Sandel ST3400 Service Bulletin SB3400-01, Revision B, dated September 15, 2004.

## **Alternative Methods of Compliance (AMOCs)**

(j)(1) The Manager, Los Angeles Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with 14 CFR 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

## **Material Incorporated by Reference**

(k) You must use Sandel ST3400 Service Bulletin SB3400-01, Revision B, dated September 15, 2004 (only the first page of the document shows the date of the document), to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Sandel Avionics Incorporated (Sandel), 2401 Dogwood Way, Vista, California, 92081, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on August 3, 2006.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E6-13447 Filed 8-18-06; 8:45 am]